

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P834626

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-5STD-20-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834626
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/16/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-4-INS-ASY2-LD4-5STD-20-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

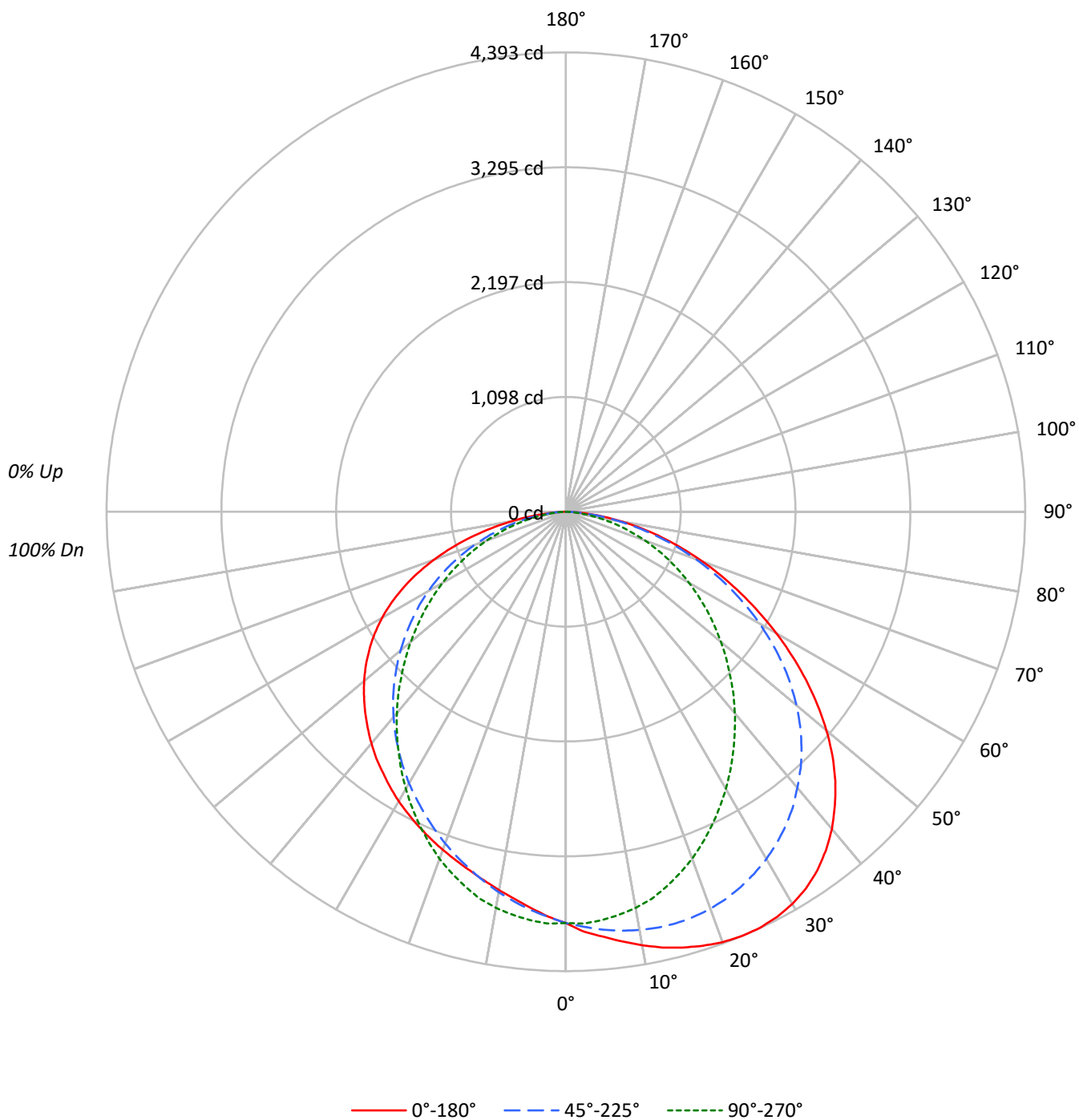
Lumens per Lamp: N/A
Luminaire Lumens: 11568.8 lumens
Efficiency: N/A
Efficacy: 69.5 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 166.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT

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Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20					20					20					20
RC	80				70					50					30					10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	100
1	109	104	100	96	106	102	98	94	97	94	91	94	91	88	90	88	86	86	86	84
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	72	72	70
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	65	61	61	61	58
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	52	52	50
5	76	63	54	47	73	61	53	47	59	52	46	57	51	46	55	50	45	45	45	43
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	40	40	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	35	35	33
8	60	46	38	32	59	46	38	32	44	37	32	43	36	31	42	36	31	31	31	29
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	28	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	26	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	5292	5292	5292
5°	5509	5294	5138
10°	5750	5255	5019
15°	6009	5171	4947
20°	6271	5057	4926
25°	6518	4910	4934
30°	6730	4756	4966
35°	6884	4586	5007
40°	6953	4416	5081
45°	6934	4230	5164
50°	6811	4052	5270
55°	6578	3866	5380
60°	6258	3667	5462
65°	5876	3443	5455
70°	5469	3175	5293
75°	4965	2789	4880
80°	4263	2291	4117
85°	3251	1565	2827

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	373.0	3.2
10°-20°	1077.2	9.3
20°-30°	1650.3	14.3
30°-40°	2013.9	17.4
40°-50°	2106.1	18.2
50°-60°	1906.2	16.5
60°-70°	1443.6	12.5
70°-80°	804.5	7.0
80°-90°	194.1	1.7
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	3100.4	26.8
0°-40°	5114.4	44.2
0°-60°	9126.6	78.9
0°-90°	11568.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11568.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3933	3933	3933	3933	3933	
5°	4079	4011	3920	3824	3804	393
15°	4314	4074	3712	3539	3551	1223
25°	4390	3959	3307	3190	3323	2025
35°	4191	3666	2792	2789	3048	2617
45°	3644	3188	2223	2321	2714	2804
55°	2804	2532	1648	1793	2294	2502
65°	1846	1736	1081	1229	1713	1831
75°	955	902	536	640	939	1013
85°	211	186	101	136	183	253
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	3932.9	3932.9	3932.9	3932.9	3932.9	3932.9	3932.9	3932.9	3932.9	3932.9	3932.9
2.5°	4019.8	4000.8	3985.4	3991.4	3994.8	3982.8	3972.5	3974.2	3963.9	3983.6	3937.2
5°	4079.1	4061.9	4043.8	4050.7	4043.8	4025.8	4011.2	4006.9	3979.4	3990.5	3943.2
7.5°	4145.3	4126.4	4099.7	4107.4	4092.8	4059.3	4040.4	4029.2	3987.1	3987.9	3935.5
10°	4208.9	4192.5	4156.4	4161.6	4134.9	4090.2	4060.2	4044.7	3985.4	3976.8	3922.6
12.5°	4268.2	4245.8	4207.2	4209.7	4171.1	4111.7	4073.1	4050.7	3973.3	3947.5	3894.2
15°	4313.8	4292.3	4245.8	4245.0	4195.1	4117.8	4073.9	4043.0	3945.0	3904.6	3848.7
17.5°	4352.4	4332.7	4275.1	4273.4	4213.2	4115.2	4062.7	4024.1	3903.7	3853.8	3791.9
20°	4380.0	4360.2	4295.7	4289.7	4217.5	4102.3	4039.5	3990.5	3849.5	3790.2	3721.5
22.5°	4392.8	4373.1	4300.0	4291.4	4207.2	4076.5	4006.0	3948.4	3787.6	3710.3	3638.9
25°	4390.3	4371.4	4288.8	4280.2	4187.4	4037.8	3958.7	3892.5	3709.4	3618.3	3547.8
27.5°	4368.8	4354.2	4267.3	4256.2	4151.3	3985.4	3901.1	3828.1	3622.6	3521.2	3444.6
30°	4331.8	4320.6	4228.7	4218.3	4106.6	3927.8	3834.1	3749.8	3528.9	3414.6	3337.2
32.5°	4272.5	4262.2	4169.3	4159.9	4046.4	3853.8	3755.8	3669.0	3426.6	3300.2	3222.9
35°	4190.8	4184.8	4094.5	4084.2	3969.0	3769.6	3665.6	3570.2	3320.0	3177.3	3103.4
37.5°	4083.4	4083.4	3996.5	3985.4	3872.8	3666.4	3564.1	3462.7	3199.6	3048.3	2975.3
40°	3958.7	3969.9	3881.3	3870.2	3761.0	3555.5	3443.8	3337.2	3069.8	2912.5	2841.2
42.5°	3809.1	3819.5	3745.5	3735.2	3632.9	3427.5	3323.4	3207.4	2934.0	2774.1	2700.2
45°	3644.1	3657.8	3591.6	3583.9	3488.5	3287.3	3187.6	3069.8	2792.2	2629.7	2557.5
47.5°	3460.1	3478.2	3420.6	3416.3	3327.7	3143.8	3039.7	2920.3	2643.4	2479.2	2411.3
50°	3253.8	3279.6	3232.3	3232.3	3153.2	2970.1	2879.8	2760.4	2488.7	2324.5	2257.5
52.5°	3032.9	3065.5	3030.3	3031.1	2966.7	2802.5	2708.8	2591.9	2327.1	2165.5	2103.6
55°	2804.2	2836.0	2813.7	2817.1	2766.4	2616.8	2531.7	2415.6	2162.0	2004.7	1946.3
57.5°	2565.2	2599.6	2585.0	2591.9	2556.6	2422.5	2334.0	2232.5	1991.8	1836.2	1786.4
60°	2325.4	2358.0	2350.3	2359.8	2337.4	2221.4	2140.5	2035.7	1820.8	1671.2	1627.3
62.5°	2082.9	2113.0	2111.3	2121.6	2109.6	2013.3	1941.1	1851.7	1643.7	1506.1	1465.7
65°	1845.7	1871.5	1869.8	1880.9	1878.3	1801.0	1735.6	1654.0	1466.6	1340.2	1305.0
67.5°	1615.3	1636.8	1630.8	1643.7	1647.1	1585.2	1528.5	1455.4	1298.1	1175.2	1145.1
70°	1390.1	1404.7	1396.9	1405.5	1413.3	1366.9	1318.7	1254.2	1118.4	1010.1	985.2
72.5°	1169.1	1179.4	1167.4	1176.0	1182.9	1149.4	1109.8	1053.9	941.3	847.6	827.0
75°	955.1	969.7	944.8	953.4	958.5	925.0	901.8	856.2	759.1	686.9	673.1
77.5°	747.9	756.5	742.7	739.3	742.7	718.7	700.6	665.4	592.3	533.0	524.4
80°	550.2	555.3	541.6	538.1	540.7	523.5	509.8	484.0	432.4	387.7	384.3
82.5°	368.8	371.4	359.3	355.9	357.6	352.5	336.1	318.1	294.0	256.2	255.3
85°	210.6	210.6	202.0	198.6	200.3	191.7	185.7	176.2	166.8	141.0	142.7
87.5°	77.4	77.4	73.1	72.2	80.8	71.4	68.8	64.5	67.1	53.3	56.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	3932.9	3932.9	3932.9	3932.9	3932.9	3932.9	3932.9	3932.9	3932.9	3932.9	3932.9
2.5°	3950.1	3941.5	3933.8	3907.1	3918.3	3890.8	3889.1	3878.8	3871.0	3856.4	3875.3
5°	3937.2	3920.0	3897.7	3865.9	3875.3	3842.7	3835.8	3823.8	3813.4	3794.5	3809.1
7.5°	3916.6	3888.2	3853.0	3812.6	3825.5	3785.1	3774.8	3761.9	3753.3	3730.9	3743.8
10°	3886.5	3846.1	3804.8	3755.8	3765.3	3721.5	3708.6	3694.8	3687.1	3667.3	3680.2
12.5°	3840.1	3791.1	3735.2	3681.9	3692.2	3651.0	3633.8	3619.2	3616.6	3600.2	3615.7
15°	3779.9	3712.0	3654.4	3597.7	3609.7	3561.6	3553.8	3539.2	3543.5	3532.3	3551.2
17.5°	3703.4	3625.2	3562.4	3501.4	3513.4	3473.0	3467.0	3460.1	3464.4	3462.7	3483.3
20°	3617.4	3531.5	3459.3	3399.1	3406.0	3374.2	3376.7	3375.0	3383.6	3393.1	3421.4
22.5°	3520.3	3423.2	3347.5	3285.6	3295.9	3268.4	3280.4	3283.9	3298.5	3320.0	3356.1
25°	3411.1	3307.1	3228.0	3169.6	3179.0	3161.0	3181.6	3190.2	3213.4	3249.5	3286.5
27.5°	3296.8	3186.7	3102.5	3046.6	3064.7	3046.6	3077.6	3094.8	3130.0	3169.6	3215.1
30°	3175.6	3061.2	2974.4	2924.6	2941.7	2925.4	2975.3	2998.5	3033.7	3087.9	3142.0
32.5°	3048.3	2928.0	2842.9	2804.2	2816.2	2813.7	2869.5	2895.3	2942.6	3004.5	3062.1
35°	2917.7	2792.2	2706.2	2673.5	2688.1	2691.6	2758.6	2788.7	2840.3	2915.1	2977.0
37.5°	2782.7	2654.6	2570.4	2543.7	2556.6	2569.5	2647.7	2677.8	2736.3	2818.0	2885.9
40°	2642.6	2514.5	2432.0	2410.5	2423.4	2437.1	2522.2	2563.5	2627.1	2715.7	2789.6
42.5°	2500.7	2372.7	2292.7	2277.2	2290.1	2316.8	2407.0	2445.7	2512.8	2610.8	2692.4
45°	2356.3	2223.1	2153.4	2141.4	2155.2	2186.1	2274.7	2321.1	2392.4	2499.9	2587.6
47.5°	2210.2	2080.4	2014.2	2006.4	2020.2	2054.6	2152.6	2194.7	2270.4	2384.7	2479.2
50°	2062.3	1935.9	1872.3	1869.8	1882.6	1919.6	2013.3	2063.2	2141.4	2269.5	2366.6
52.5°	1912.7	1791.5	1733.9	1733.9	1746.0	1783.8	1878.3	1929.9	2010.7	2145.7	2253.2
55°	1763.2	1648.0	1592.9	1597.2	1614.4	1647.1	1739.1	1793.2	1874.9	2015.0	2128.5
57.5°	1613.6	1504.4	1454.5	1460.6	1476.9	1509.6	1599.8	1660.9	1734.8	1880.1	1996.1
60°	1465.7	1362.6	1318.7	1325.6	1340.2	1372.9	1466.6	1519.0	1592.9	1740.8	1856.9
62.5°	1316.1	1222.4	1181.2	1189.8	1202.7	1235.3	1323.9	1374.6	1447.7	1592.9	1709.9
65°	1168.3	1081.4	1046.2	1054.8	1066.8	1096.9	1180.3	1229.3	1298.9	1440.8	1552.5
67.5°	1022.1	943.0	913.8	922.4	931.9	960.2	1029.0	1082.3	1147.6	1282.6	1388.3
70°	877.7	807.2	781.4	790.0	798.6	824.4	884.6	933.6	993.8	1117.6	1215.6
72.5°	735.0	666.2	653.3	661.1	668.0	690.3	747.9	786.6	839.0	949.1	1033.3
75°	595.7	536.4	527.8	535.6	541.6	558.8	606.9	640.4	684.3	779.7	848.5
77.5°	461.6	411.8	408.3	414.4	420.4	432.4	470.2	505.5	539.9	610.4	671.4
80°	336.1	295.7	295.7	301.7	300.0	314.6	341.3	369.7	394.6	445.3	490.0
82.5°	221.8	190.0	194.3	198.6	201.2	207.2	223.5	245.0	260.5	291.4	320.7
85°	122.9	101.4	105.7	109.2	107.5	114.3	122.9	135.8	143.6	158.2	173.7
87.5°	45.6	37.8	38.7	41.3	43.0	46.4	46.4	54.2	55.0	56.7	60.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	3932.9	3932.9	3932.9
2.5°	3839.2	3859.9	3875.3
5°	3773.0	3790.2	3804.0
7.5°	3708.6	3724.0	3736.1
10°	3647.5	3664.7	3673.3
12.5°	3584.8	3604.5	3611.4
15°	3522.9	3542.6	3551.2
17.5°	3459.3	3485.0	3494.5
20°	3399.9	3432.6	3440.3
22.5°	3339.8	3373.3	3382.7
25°	3274.4	3314.0	3323.4
27.5°	3204.8	3252.1	3261.5
30°	3135.2	3186.7	3196.2
32.5°	3060.4	3116.3	3124.9
35°	2982.1	3038.0	3048.3
37.5°	2895.3	2956.4	2977.0
40°	2805.1	2871.3	2892.7
42.5°	2710.5	2782.7	2805.1
45°	2609.1	2688.1	2713.9
47.5°	2506.8	2596.2	2618.5
50°	2395.9	2491.3	2517.9
52.5°	2279.8	2383.8	2410.5
55°	2159.5	2264.3	2293.6
57.5°	2028.8	2137.1	2168.1
60°	1892.1	2000.4	2029.6
62.5°	1752.0	1850.0	1878.3
65°	1595.5	1687.5	1713.3
67.5°	1429.6	1513.9	1535.3
70°	1253.4	1326.5	1345.4
72.5°	1069.4	1120.1	1145.1
75°	879.4	919.8	938.7
77.5°	688.6	717.0	732.4
80°	502.0	518.4	531.3
82.5°	328.4	335.3	344.7
85°	177.1	177.1	183.1
87.5°	60.2	57.6	60.2
90°	0.0	0.0	0.0

(END OF REPORT)